Figures 3A and 3B) and an optical signal input to the second port 104 will be provided to the third port 106 along a second optical path (depicted in Figures 3A and 3C). However, an optical signal input to the first port 102 will not be transmitted to the third port 106. Similarly, an optical signal input to the second port 104 will not be provided to the first port 102.

IN THE CLAIMS:

1. (Amended) An optical circulator comprising:

a first port;

a second port opposite to the first port;

a third port adjacent to the first port;

a first birefringent material optically coupled to the first port and the third port, the first birefringent material having a longitudinal axis, a transverse direction perpendicular to the longitudinal axis, a first displacement direction and a first length, the first displacement direction being at a first oblique angle from the transverse direction;

a first rotator pair, the first birefringent material being between first rotator pair and the first port;

a second birefringent material, the first rotator pair being between the first birefringent material and the second birefringent material, the second birefringent material having a second longitudinal axis and a second displacement direction, the second displacement direction being perpendicular to the second longitudinal axis,

a second rotator pair, the second birefringent material being between the first rotator pair and the second rotator pair; and

a third birefringent material, the third birefringent material having a third longitudinal axis parallel to the longitudinal axis, the transverse direction perpendicular to the third longitudinal axis, a third displacement direction and a second length, the third displacement direction being at a second oblique angle from the transverse direction;

wherein a first optical path is established from the first port to the second port, and a second optical path is established from the second port to the third port such that when an optical signal is input at the first port the optical signal travels along the first optical path to the second port and when the optical signal is input to the second port the optical signal travels along the second optical path to the third port.

12. (Amended) An optical circulator comprising:

a first port;

a second port opposite to the first port;

a third port adjacent to the first port;

means for establishing a first optical path and a second optical path, the first optical path from the first port to the second port, the second optical path from the second port to the third port such that when an optical signal is input at the first port the optical signal travels along the first optical path to the second port and when the optical signal is input to the second port the optical signal travels along the second optical path to the third port, the optical path establishing means including

a first birefringent material optically coupled to the first port and the third port, the first birefringent material having a longitudinal axis, a transverse direction perpendicular to the

longitudinal axis, a first displacement direction and a first length, the first displacement direction being at a first oblique angle from the transverse direction;

a second birefringent material, the first birefringent material being between the first port and the second birefringent material, the second birefringent material having a second longitudinal axis and a second displacement direction, the second displacement direction being perpendicular to the second longitudinal axis,

a third birefringent material, the second birefringent material being between the first birefringent material and the third birefringent material, the third birefringent material having a third longitudinal axis parallel to the longitudinal axis, the transverse direction perpendicular to the third longitudinal axis, a third displacement direction and a second length, the third displacement direction being at a second oblique angle from the transverse direction.

13. (Amended) A method utilizing an optical circulator, the optical circulator including a first port, a second port and a third port adjacent to the first port, the method comprising the steps of:

(a) inputting the optical signal to a first port or a second port opposite to the first port;

(b) transmitting the optical signal through a means for establishing a first optical path and a second optical path such that when an optical signal is input at the first port the optical signal travels along the first optical path to the second port and when the optical signal is input to the second port the optical signal travels along the second optical path to the third port, the first optical path from the first port to the second port, the second optical path from the second port to the third port, the optical path establishing means including a first birefringent material optically

coupled to the first port and the third port, the first birefringent material having a longitudinal axis, a transverse direction perpendicular to the longitudinal axis, a first displacement direction and a first length, the first displacement direction being at a first oblique angle from the transverse direction, a first rotator pair, the first birefringent material being between first rotator pair and the first port, the first rotator pair includes a first rotator and a second rotator, the first rotator rotating a polarization of an optical signal in a first direction, the second rotator rotating the polarization of the optical signal in a second direction opposite to the first direction, a second birefringent material, the first rotator pair being between the first birefringent material and the second birefringent material, the second birefringent material having a second longitudinal axis and a second displacement direction, the second displacement direction being perpendicular to the second longitudinal axis, a second rotator pair, the second birefringent material being between the first rotator pair and the second rotator pair, the second rotator pair including a third rotator and a fourth rotator, the third rotator rotating the polarization of the optical signal in the second direction, the fourth rotator rotating the polarization of the optical signal in the first direction, and a third birefringent material, the third birefringent material having a third longitudinal axis parallel to the longitudinal axis, the transverse direction perpendicular to the third longitudinal axis, a third displacement direction and a second length, the third displacement direction being at a second oblique angle from the transverse direction.